BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

---------In the Matter of--------	DOCKET NO. 2009-0108
PUBLIC UTILITIES COMMISSION	
Instituting a Proceeding to Investigate Proposed Amendments To the Framework for Integrated Resource Planning.	

THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM'S FINAL STATEMENT OF POSITION ON THE PROPOSED AMENDMENTS TO THE FRAMEWORK FOR INTEGRATED RESOURCE PLANNING

AND

CERTIFICATE OF SERVICE

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THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM'S FINAL STATEMENT OF POSITION ON THE PROPOSED AMENDMENTS TO THE FRAMEWORK FOR INTEGRATED RESOURCE PLANNING

The Department of Business, Economic Development, and Tourism ("DBEDT"), by and through its Director ("Director") in his capacity as the Energy Resources Coordinator ("ERC"), through the undersigned Deputy Attorney General, hereby submits to the Hawaii Public Utilities Commission ("Commission" or "PUC") its Final Statement of Position (FSOP) in the above-captioned docket, an investigatory proceeding on the proposed amendments to the Integrated Resource Planning (IRP) Framework proposed by Hawaiian Electric Company, Inc. (HECO), Hawaii Electric Light Company, Inc. (HELCO), Maui Electric Company, Ltd. (MECO) (collectively referred to as "The HECO Companies"), and the Consumer Advocate ("CA").

Background

By letter dated November 6, 2008, the HECO Companies and the CA requested that the Commission close Docket No. 2007-0084, Docket No. 04-0046, and Docket No. 04-0077, relating to HECO's IRP-4, HELCO's IRP-4, and MECO's IRP-4, respectively, and to open a new docket to establish the Clean Energy Scenario Planning (CESP) Framework. The Parties' request was pursuant to the Energy Agreement entered into between the State and the HECO Companies on October 20, 2008 under the auspices of the Hawaii Clean Energy Initiative ("HCEI"). On November 26, 2008, the Commission issued an order closing Docket No. 2007-0084 and Docket No. 04-0046; and on December 8, 2008, issued an order closing Docket No. 04-0077. Thereupon, the HECO Companies suspended all activities relating to IRP.

By letter dated April 28, 2009, the HECO Companies, Kauai Island Utility Cooperative ("KIUC"), and the CA requested "that the Commission open an investigatory docket to review and establish the Clean Energy Planning Framework [CESP Framework] based on the proposal being submitted [by the parties]".[1] The HECO Companies' and the CA's proposed CESP Framework is based on their proposed revisions to the existing IRP Framework which was established by the Commission in Decision and Order No. 11523 issued on March 12, 1992, as amended by Decision and Order No. 11630 issued on May 22, 1992, in Docket No. 6617. The IRP Framework required the electric and gas utilities in Hawaii to develop integrated resource plans in accordance with the framework, to identify the mix of resources both on the demand-side

[1] Letter to the PUC from HECO, KIUC, and the CA, April 28, 2009, p. 5.

and on the supply-side, for meeting the consumers' future energy needs at the lowest reasonable cost. "The IRP Framework is a mandatory guide for the utilities to follow."[2]

On May 14, 2009, the Commission issued its order initiating the above-captioned docket to examine the Parties' proposed amendments to the IRP Framework, as set forth in their letter dated and filed on April 28, 2009. The Commission's order named HECO, HELCO, MECO, KIUC, and the CA as parties to the docket. On July 1, 2009, the Commission issued its order granting intervenor status to eleven parties[3] including the Department of Business, Economic Development, and Tourism ("DBEDT").

On July 29, 2009, the Parties, except for LOL[4], filed a proposed Stipulated Procedural Order ("SPO"), as amended on September 11, 2009, for Commission approval. Pursuant to the proposed SPO that was pending Commission approval, the HECO Companies held a Technical Session with the Parties in the docket on August 11, 2009, to discuss their proposed amendments to the IRP Framework, which constitutes their CESP Framework. On August 28, 2009, the Parties provided their Informal Proposed Modifications to the HECO Companies' proposed amendments to the IRP Framework, and another Technical Session was held on September 15, 2009, to discuss the Parties' proposed informal

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[2] Docket No. 6617, PUC Decision and Order No. 11523, March 12, 1992, Page 25.
[3] The intervenors include (1) DBEDT, (2) County of Hawaii, (3) County of Maui, (4) County of Kauai, (5) Life of the Land ("LOL"), (6) Haiku Design and Analysis ("HDA"), (7) Hawaii Renewable Energy Alliance ("HREA"), (8) Blue Planet Foundation, (9) Hawaii Solar Energy Association ("HSEA"), (10) The Marriotts, and (11) Forest City Hawaii Residential, Inc.
[4] LOL did not stipulate but supported the proposed Stipulated Procedural Order.

comments and modifications to the HECO Companies' proposed CESP Framework or proposed amendments to the IRP Framework.

On September 23, 2009, the Commission issued its order approving the Parties' SPO filed on September 11, 2009, with some modifications ("Commission's Order"). The Commission's Order Approving the SPO set forth the procedural schedule and the issues that will be addressed in the docket. The Commission's Order also stated that the starting point for establishing a CESP Framework should be the existing commission-approved IRP Framework, and not HECO's and CA's "Proposed CESP Framework".[5]

On October 2, 2009, the Parties filed their Opening Statements of Position (OSOP) pursuant to the approved schedule. On November 3, 2009, the Commission issued the NRRI's paper titled "Clean Energy Scenario Planning: Thoughts on Creating a Framework." The NRRI paper provided comments and comparisons between scenario planning and integrated resource planning, and the Parties, including DBEDT, filed their comments on the NRRI paper on November 20, 2009 pursuant to the docket schedule. The NRRI paper also recommended that the parties address in their Final Statements of Position (FSOP) the list of questions attached as Appendix C to the NRRI paper.[6]

Also pursuant to the docket schedule, the Parties filed and responded to information requests on the Parties' Preliminary Statements of Position on November 10, 2009 and November 25, 2009, respectively.

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[5] Commission's Order Approving the Stipulated Procedural Order, As Modified, September 23, 2009. p. 5.
[6] NRRI Paper, November 3, 2009. p. 10.

DBEDT's FSOP provided herein, includes:

A. DBEDT's Final Statement of Position on the issues identified in the Commission's Order issued on September 23, 2009;

B. DBEDT's proposed amendments to the 1992 IRP Framework;

C. A summary of DBEDT's comments on the NRRI paper;

D. DBEDT's responses to the list of questions provided in the NRRI paper;

E. Exhibit A, which provides DBEDT's proposed CESP Framework; and

F. Exhibit B, which provides DBEDT's proposed revisions in track changes to the current IRP Framework.

A. DBEDT's Position on the Issues Identified by the Commission's Order Approving the Stipulated Procedural Order

This section provides DBEDT's final position on the issues addressed in the above-captioned docket as identified by the Commission's Order.

Issue 1. What are the objectives of CESP and how do they differ from the objectives of IRP?

The objectives of CESP should include but not be limited to the following:

1) To meet the consumers' future energy needs in an integrated, efficient, reliable, and cost-effective manner, and with reduced dependence on imported fossil fuels.

2) To achieve the State goals of energy independence and security and its attendant economic and environmental benefits, by meeting or surpassing the statutorily mandated renewable portfolio standards (RPS) and energy efficiency portfolio standards (EEPS).

3) To identify and plan for the required transmission and delivery infrastructure upgrades and expansions necessary to increase the system capability and resiliency to meet the consumers' future energy needs with the use of clean renewable energy resources and technology consistent with the State energy goals.

DBEDT believes that the CESP planning objectives envisioned above are much broader in scope than the objective of the 1992 IRP Framework. The objective of the 1992 IRP Framework was narrowly defined as "the identification of the resources or mix of resources for meeting near and long term consumer energy needs in an efficient and reliable manner at the lowest reasonable cost." In contrast, the objectives of scenario planning as suggested above are broader in scope as it looks beyond simply generation resource planning and the consumers' interests.

Additionally, there are many more risks and uncertainties in planning and meeting the consumers' long-term energy needs created or driven by forces, both local and national, that are outside and beyond the utility's control. Furthermore, these forces will have critical impacts on utility planning and are generated outside of the traditional regulatory framework.

Issue 2. What is the basis for each of the proposed changes to the IRP process, and are these bases reasonable and in the public interest?

DBEDT believes that the changes in Hawaii's energy landscape in the last decade or so necessitate the need to establish a new utility resource planning framework by the Commission that modifies, updates, and expands the existing IRP Framework to provide policy guidance, planning goals, and planning principles that the utilities must follow in its generation resource and infrastructure planning in meeting Hawaii's future energy needs. Since the establishment of the IRP Framework by the Commission in 1992, there have been significant changes in Hawaii's energy landscape that warrant modifying the IRP Framework, including but not limited to the following:

1) The transfer of the management, design, development, and implementation of the demand-side management programs (DSM) to the Public Benefits Fund (PBF) Administrator pursuant to section 269-122, Hawaii Revised Statutes ("HRS").

2) The establishment of the statutorily mandated Renewable Portfolio Standards ("RPS") and Energy Efficiency Portfolio Standards ("EEPS").[7]

3) The institution of the Net Energy Metering ("NEM")[8] statute to encourage customer-owned and customer-sited energy systems.

[7] Act 155, Session Laws of Hawaii (SLH) 2009.

4) The statutory requirement for the Commission to consider the need for the increased use of renewable energy resources in the exercise of its authority and duties.[9]

5) The de-linking of a utility's avoided cost from fossil fuel costs in the determination of just and reasonable purchased power rates.[10]

6) The enactment of Act 234, Session Laws of Hawaii 2007 ("SLH"), with the mandate to reduce Hawaii's greenhouse gas emissions at or below the 1990 emissions level by 2020.

7) The sale of Kauai Electric Company ("KECO") to Kauai Island Utility Cooperative ("KIUC") in November 2002. KECO was formerly a division of Citizens Utilities Company, an investor-owned company providing electric, telecommunications, water and wastewater utility services. The present utility, KIUC, is a utility cooperative owned by its members, and managed by an elected board of directors.

8) The signing of the Memorandum of Understanding (MOU) in January 2008, between the State and the U.S. Department of Energy ("USDOE") establishing the Hawaii Clean Energy Initiative ("HCEI") aimed at transforming Hawaii from the most fossil fuel dependent economy to 70% clean renewable energy-based economy by 2030. HCEI provides a policy framework for achieving Hawaii's energy goals of energy

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[8] Part VI, Chapter 269, HRS.
[9] Section 269-6(b), HRS.
[10] Section 269-27.2, HRS.

independence and security, creating several major energy-related initiatives that require regulatory scrutiny and Commission approval, including potential changes to the regulatory framework, utility cost recovery, as well as the need for significant changes to the transmission infrastructure that would require massive capital investments. Several of these regulatory initiatives under investigation by the Commission in other concurrent dockets will affect the utility resource planning.

9) The signing of the Energy Agreement between the State and the HECO Companies on October 20, 2008, under the auspices of the HCEI. The Energy Agreement is a comprehensive agreement designed to move the State away from its dependence on imported fossil fuels for electricity and ground transportation, and toward indigenously produced renewable energy and energy efficiency. It provides the HECO Companies' commitments to accelerate the addition of new clean renewable resources on all islands served by the HECO Companies, and would impact the utilities' resource plans.

10) The institution of new procurement methods by the Commission for the utilities to purchase power such as the competitive bidding framework, and more importantly, the Commission's approval of the feed-in tariffs in Docket No. 2008-0273 for the utilities' procurement of renewable energy resources, issued on September 25, 2009.

11) The advances and developments in information technology which render some of the provisions of the current IRP Framework relating to public notices somewhat antiquated.

12) The technological advances such as energy storage, smart grid, and advanced metering become important considerations in planning for Hawaii's energy future.

The aforementioned developments in Hawaii's energy landscape provide a reasonable basis for amending the planning framework for developing the utilities' generation resource and delivery infrastructure plans to meet Hawaii's clean energy future.

Issue 3. Whether the proposed changes to the IRP Process should include changes to reflect the differences between electric cooperatives and investor owned utilities?

The new framework should be broad, general, and flexible enough to be applicable to the different utilities, but where certain provisions of the new framework do not apply or fit any specific utility because of the nature of the utility's business (i.e., GASCO or TGC) or because of different governing and funding structure (i.e., KIUC), a separate or a different provision may have to be included in the framework to be applicable to such situations or conditions.

Issue 4. What should be the role of the state's public benefits fee administrator?

DBEDT believes that the role of the state's public benefits fee administrator should include but not be limited to the following:

1) To satisfy and achieve the requirements established by the Commission to administer, operate, and manage any programs

established in HRS, §269-122. These requirements include identifying, designing, developing, administering, and implementing demand-side management programs (DSM) and energy efficiency programs to achieve the maximum DSM and energy efficiency potential on each island.

2) The public benefits fee administrator ("PBF administrator") must be responsible for achieving the target goals for the energy efficiency and demand-side management programs that may be established by the Commission to be included in the new planning framework's objectives, and contribute to the achievement of the Energy Efficiency Portfolio Standards established by Act 155, SLH 2009.

3) The public benefits fee administrator, in collaboration with the utility and the technical working groups, shall be responsible for designing and developing demand-side and energy efficiency programs and delivery mechanisms to achieve the Commission-established goals included in the utility action plan.

4) The public benefits fee administrator shall be responsible for developing all analyses for the demand-side and energy efficiency programs under its purview and shall provide all such analyses to the utility in a timely manner for use in scenario planning as well as in utility filings with the Commission as required by the framework.

5) The public benefits fee administrator shall be a member of any and all working groups and/or advisory groups that the

utility may be required to establish in developing the CESP scenarios and CESP action plans.

6) The public benefits fee administrator shall be a party in interest in all CESP-related dockets as may be deemed necessary and appropriate by the Commission, and shall assist and participate in all CESP-related public meetings or public workshops by the utility as may be required by the new planning framework.

7) The public benefits fee administrator shall assist and participate in all CESP-related public meetings or public workshops by the utility as required by the framework.

B. DBEDT's Proposed Revisions to the 1992 IRP Framework

DBEDT's proposed CESP Framework is attached as Exhibit A to this final statement of position. Pursuant to the Commission's order to use the Commission-approved 1992 IRP Framework as a starting point in establishing a scenario planning framework, DBEDT's proposed CESP Framework amends the current IRP Framework, and DBEDT's proposed revisions are shown in track-changes in the current IRP Framework attached as Exhibit B. The proposed changes are briefly summarized as follows:

1. Modify Section I to add the definitions of certain terms that are used in the new scenario planning framework.

2. Modify Section II.A to state the planning objectives more broadly to include the transmission and delivery infrastructure planning as well as to take into account the broader State goals of energy independence and energy security.
3. Modify Section II.B to include guiding principles and policy guidance for developing the planning scenarios and utility action plans.
4. Modify the sections on the responsibilities of the utility, the Commission, and the consumer advocate for clarity, as well as to add the role and responsibilities of the public benefits fee administrator in Section II.F.
5. Modify the planning method in Section III.A to identify the steps, processes, and requirements for scenario planning; the development of the action plans; and the implementation requirements including the process for the utility filings requiring commission review and approval.
6. Update the planning cycle in Section III.B.
7. Modify Section III.D to identify the submissions by the utility to the Commission for approval that are appropriate and reflective of the scenario planning process.
8. Modify Section III.E to provide for more effective public participation in the utility's planning process.
9. Modify Section III.F, mainly to delete the provision relating to incentives mechanisms that are no longer

applicable due to the transfer of the DSM programs to the public benefits fee administrator.

10. Modify Section IV to include scenarios and Locational Value Maps in the planning considerations, and to modify the planning objectives in Section IV.D.

11. Delete the section on "Assumptions; Risks; Uncertainties" in Section IV. F; the section on "Resource Optimization" in Section IV.I; and the section on "Pilot Demand-Side Management Programs" in Section IV.V, as these sections are either no longer applicable to the new scenario planning method, or are implied in the other provisions of DBEDT's proposed CESP Framework.

C. Summary of DBEDT's Comments to NRRI Paper

The following is a summary of DBEDT's comments to the NRRI paper titled "*Clean Energy Scenario Planning: Thoughts on Creating a Framework*", issued by the Commission on November 3, 2009. Pursuant to the approved procedural schedule, the Parties including DBEDT filed their comments to the NRRI paper on November 23, 2009, and the following is simply a summary of DBEDT's filing on the matter:

1. DBEDT agrees with the need for a scenario planning approach in developing the utilities' generation resource and delivery infrastructure plans for meeting Hawaii's future energy needs.

2. DBEDT believes that while there are differences between scenario planning and integrated resource planning, there is also some commonality between these two planning methods, such that the 1992 IRP Framework provides a reasonable starting point for crafting a scenario planning framework. DBEDT maintains that there are some provisions in the 1992 IRP Framework that are applicable to scenario planning and should be adopted and incorporated in the new scenario planning framework.

D. DBEDT's Responses to the NRRI Questions

This section provides DBEDT's responses to the list of questions attached as Appendix C to the NRRI paper which NRRI recommended the Parties to address in their Final Statements of Position. For brevity's sake, when the response is reflected or provided in any part or section of DBEDT's proposed CESP Framework provided in Exhibit A to this final statement of position, the response will simply identify those sections.

1. Does the proposed framework provide a reasonable process for defining the question(s) that the CESP must answer?

   DBEDT's Response:

   Yes. Please see proposed steps in scenario planning method in Section III.A of DBEDT's proposed CESP Framework provided in Exhibit A.

2. Does the proposed framework enable the Commission to meet its statutory requirements regarding the review and establishment of RPS and EEPS targets?

DBEDT's Response:

Section 269-95, HRS requires the Commission to evaluate the RPS and the EEPS every five years beginning in 2013. The statute also requires the Commission to establishe interim EEPS goals for 2015, 2020, and 2025. DBEDT has no information as to when the Commission plans to begin its review of the RPS and EEPS targets. DBEDT's proposed planning cycle is for the utilities to file their initial action plans 18 months after the Commission issues its decision and order in this docket.

3. Does the proposed framework provide a reasonable process for defining a starting point for scenario planning?

DBEDT's Response:

Yes. Please see proposed steps in scenario planning method in Section III.A of DBEDT's proposed CESP Framework provided in Exhibit A.

4. Does the proposed framework provide a reasonable process for discovering a plausible range of uncertainties and trends?

DBEDT's Response:

Yes. Please see proposed steps in scenario planning method in Section III.A of DBEDT's proposed CESP Framework provided in Exhibit A.

5. Does the proposed framework differentiate between uncertainties and predetermined trends?

DBEDT's Response:

Yes. Please see proposed steps in scenario planning method in Section III.A of DBEDT's proposed CESP Framework provided in Exhibit A.

6. Does the proposed framework provide a reasonable process for identifying the drivers of uncertainty that make a difference?

DBEDT's Response:

Yes. Please see proposed steps in scenario planning method in Section III.A of DBEDT's proposed CESP Framework provided in Exhibit A.

7. Does the proposed framework provide a reasonable process for defining a reasonable number of scenarios that define a plausible range of different futures for planning decisions?

DBEDT's Response:

DBEDT is open to considering the other Parties' proposals on this matter.

8. Does the proposed framework enable the Commission to make timely and informed decisions about the budget for the Public Benefits Fee Administrator?

DBEDT's Response:

DBEDT has no information on the timing of the Commission's budgeting process for the Public Benefits Fee Administrator.

9. Does the proposed framework provide a reasonable process for assessing actions and making decisions?

DBEDT's Response:

DBEDT believes that it is important to have current and updated utility plans at all times. DBEDT's proposed methods for utility filings requiring Commission approval are based on related statutes.

10. Does the proposed framework provide a reasonable process for ongoing monitoring and adjustments to approved plans?

DBEDT's Response:

Yes. Please see Section III.C of DBEDT's proposed CESP Framework provided in Exhibit A attached to this final statement of position.

11. Does the proposed framework create an efficient, transparent process that involves all relevant decision-making entities?

DBEDT's Response:

Yes. Please see Section III.E of DBEDT's proposed CESP Framework provided in Exhibit A attached to this final statement of position.

12. Does the proposed timeline provide adequate time for the participants to address effectively each step of the framework?

DBEDT's Response:

Yes. See DBEDT's proposed CESP Framework provided in Exhibit A attached to this final statement of position.

13. Does the proposed frequency of scenario-planning cycles allow the Commission to meet its related statutory responsibility efficiently?

DBEDT's Response:

Yes. Please see Section III.B of DBEDT's proposed CESP Framework attached as Exhibit A to this final statement of position.

SUMMARY

DBEDT supports amending the IRP Framework established by the Commission in 1992. There have been important developments and changes in Hawaii's energy landscape since 1992 that have changed the drivers for new resource planning for Hawaii's energy future. The new resource planning framework must provide flexible and comprehensive policy guidance, planning goals, planning principles, procedures and requirements that the utilities must follow in developing generation resources and delivery infrastructure plans for meeting Hawaii's future energy needs in an integrated, efficient, reliable, cost-effective and sustainable manner. The new framework must ensure that the utilities' resource planning and action plans are aligned with the State's goals of energy independence and security, and the attendant

economic and environmental benefits. DBEDT's proposed CESP Framework provided in Exhibit A reflects these requirements.

DATED: Honolulu, Hawaii, December 21, 2009.

GREGG J. KINKLEY
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Certificate of Service

I hereby certify that I have served a copy of the Department of Business, Economic Development, and Tourism's Final Statement of Position in Docket Number 2009-0108, by electronic transmission on the date of signature to each of the parties listed below.

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STATE OF HAWAII

PUBLIC Utilities COMMISSION
STATE OF HAWAII

A PROPOSED FRAMEWORK FOR CLEAN ENERGY SCENARIO PLANNING
FEBRUARY __, 2010

(DBEDT's PROPOSED CESP FRAMEWORK)

I. Definitions

Unless otherwise clear from the context, as used in this framework:

"Action Plan" or "CESP Action Plan" is a strategy for serving Hawaii's future energy needs and requirements in a manner that is consistent with the planning framework, and includes executable or actionable programs, measures, and/or policies with an implementation schedule or timetable.

"Clean energy" means electrical energy generated using renewable energy as a source or as electrical energy savings resulting from the use of energy efficiency technologies or measures such as renewable displacement or off-set technologies, as well as electrical energy savings from conservation, and demand-side management programs including demand response programs and rate design.

"Clean Energy Objectives" means reducing Hawaii's dependence on imported fossil fuels and increasing Hawaii's energy self-sufficiency and energy security through energy efficiency and increased use of clean renewable energy resources.

"Capital investment costs" means costs associated with capital improvements, including planning, the acquisition and development of land, the design and construction of new facilities, the renovations or additions to existing facilities, the construction of built-in equipment, and consultant and staff services in planning, design, and construction. Capital investment costs for a program are the sum of the program's capital improvement project costs.

"Costs" means the full and life cycle costs of a resource option.

"Cost categories" means the major types of costs and includes research and development costs, investment costs or capital expenditures, energy efficiency programs or DSM costs, operating and maintenance costs including fuel and purchased power costs, taxes, and depreciation expense.

"Demand-side management" or "DSM" means programs designed to influence utility customer uses of energy to produce desired changes in demand and energy consumption. It includes conservation, load management, rate design, and efficiency resource programs.

"Design costs" means the costs related to the preparation of architectural drawings for capital improvements, from schematics to final construction drawings.

"Distributed Generation" means small-scale electric generating technologies installed at, or in close proximity to, the end-user's location.

"Effectiveness measure" means the criterion for measuring the degree to which the objective sought is achieved.

"External benefits" means external economies; benefits to or positive impacts on the activities of entities outside the utility and its ratepayers. External benefits include environmental, cultural, and general economic benefits.

"External costs" means external diseconomies; costs to or negative impacts on the activities of entities outside the utility and its ratepayers. External costs include environmental, cultural, and general economic costs.

"Feed-in-Tariff" or "FIT" means a Commission-approved utility tariff providing standardized and published purchased power rates, including terms and conditions, used by the utility to acquire or purchase renewable energy from third-party renewable energy developers or producers.

"Full cost" means the total cost of a program, system, technology, or resource, including research and development costs, capital investment costs, operating and maintenance costs, and taxes.

"Investment costs" means the one-time costs beyond the development phase to introduce a new system, program, technology, or resource into use. It includes capital investment costs, initial equipment acquisition costs, and initial education and training costs.

"Life cycle costs" means the total cost impact over the life of the program. Life cycle costs include research and development cost, investment cost (the one-time cost of instituting the program), and operating and maintenance (O&M) cost including taxes and depreciation.

"Locational Value Map" or "LVM" means geographic areas of an electric utility's distribution system growth within the next 3-5 years where distributed resources and energy efficiency could be beneficial within the existing transmission and distribution system limits.

"Net Energy Metering" or "NEM" means measuring the difference between the electricity supplied by the utility to the consumer through the electric grid and the electricity generated by an eligible customer-generator and fed back to the electric grid over a specified period as defined in HRS Chapter 269, part VI, section 269-101.

"Objective" means a statement of the end result, product, or condition desired, for the accomplishment of which a course of action is taken.

"Operating and maintenance costs" or "O&M costs" means recurring costs of operating, supporting, and maintaining authorized programs, including costs for labor, fuel, purchased power, materials and supplies and other recurring expenses.

"Participant impact" means the impact on participants in a demand-side management program in terms of the costs borne and the direct, economic benefits received by the participants.

"Planning Objectives" means the desired outcome to be accomplished by the utility resource plans or action plans.

"Program" means a project, or a resource, activity, policy, strategy, or a combination or suite of projects, activities, policies, and/or strategies in a scenario or action plan or resource plan.

"Public Benefit Fee Administrator" or "PBF Administrator" means the third-party administrator of energy efficiency demand-side management programs as defined in chapter 269, part VII, section 269-122, HRS.

"Ratepayer impact" means the impact on ratepayers in terms of the utility rates that ratepayers must pay.

"Renewable Portfolio Standards" or "RPS" means the current law on RPS as defined in chapter 269, part V, HRS.

"Research and development costs" means costs associated with the development of a new system, program, technology, or resource to the point where it is ready for introduction into operational use. It includes the costs of prototypes and the testing of the

prototypes. It includes the costs of research, planning, and testing and evaluation.

"Scenario" is a probable future circumstance or set of probable future circumstances that are external to and are beyond the utility's control, and which could have significant impact on the utility's resource planning for meeting future electricity needs and demand.

"Scenario Planning" is a tool or process for learning and understanding the nature and impact of the most uncertain and important driving forces in the future energy environment that could and would affect the utility's obligation of meeting and supplying the consumers' future energy needs and requirements.

"Societal cost" means the total direct and indirect costs to society as a whole. "Society" includes the utility and, in a demand-side management program, the participants.

"Societal cost-benefit assessment" means an assessment of the costs and benefits to society as a whole.

"Supply-side programs" means programs, resources, or technologies designed to supply, generate or produce power. It includes renewable energy.

"Total resource cost" means the total cost of a demand-side management program, including both the utility and participants' costs.

"Utility" or "Public Utility" means a electric and utility gas company providing electric or gas utility service in the State of Hawaii, as defined in Section 269-1, HRS.

"Utility cost" means the costs to the utility, excluding costs incurred by participants in demand-side management or energy efficiency programs.

"Utility cost-benefit assessment" means an assessment of the costs and benefits to the utility.

II. Introduction

A. Goal of Clean Energy Scenario Planning

The goal of Clean Energy Scenario Planning (CESP) is the identification of the utility's action plan or plans including generation resources and delivery infrastructure requirements for meeting Hawaii's future energy needs and

requirements for energy self-sufficiency and security in an integrated, efficient, reliable, and cost-effective manner under a range of scenarios of energy futures.

B. Governing Principles

1. The development of CESP action plans to meet future energy needs is the responsibility of each utility and requires public input, review and approval by the Commission.

2. CESP action plans shall comport with federal, state and county environmental, health, and safety laws as well as formally adopted state and county plans.

3. The CESP scenarios shall be developed upon consideration of providing reasonable and probable futures that would help define, identify, and mitigate the risks and uncertainties in developing a program or strategy in meeting the consumers' future energy needs.

4. CESP action plans shall be developed upon consideration and analyses of the short-term and long-term costs, effectiveness, and benefits of all appropriate, available, and feasible supply-side resources and demand-side options, including demand response or load management programs and rate design.

5. The CESP action plans shall be developed upon consideration and analyses of the associated transmission and delivery infrastructure requirements and costs, including operational changes, grid upgrades, system capacity additions or replacements.

6. The associated transmission and delivery infrastructure plans shall be developed upon consideration of adoption of appropriate, applicable and cost-effective technological advances such as smart grid, energy storage, and any other technological grid improvements, as well as changes in the utility's operating procedures.

7. CESP action plans shall give consideration to the plans' impacts upon the utility's consumers, service quality and reliability, the environment, culture, community lifestyles, the State's energy security, energy independence, economy, and society.

8. CESP action plans shall take into consideration the utility's financial integrity, size, and physical capability.

9. CESP planning shall be an open public process that promotes and provides opportunities for participation by the public and governmental agencies in the development and in commission review of CESP action plans.

10. CESP action plans shall prioritize resource acquisition and program implementation such that energy efficiency programs including demand response and rate design, and renewable energy resources are first optimized before consideration is given to fossil-based resources.

11. CESP action plans shall promote and encourage the increased use of distributed generation or dispersed generation over fossil-based central generation stations.

12. The utility is entitled to recover all prudently incurred and reasonable CESP planning and implementation costs.

C. Utility's Responsibility

1. Each utility is responsible for developing a CESP action plan or plans for meeting the future energy needs of its customers and at the same time achieve or surpass the statutory requirements for achieving the state goals of energy independence and security.

2. The utility shall prepare and submit to the commission for commission approval at the time or times specified in this framework the utility's CESP action plan including the scenario or range of scenarios and supporting analyses.

3. The utility shall execute the commission approved CESP action plan or plans. The utility's execution of the CESP action plan or plans shall include the filing of applications for Commission approval of the programs or resource acquisitions included in the CESP action plan or plans in accordance with the commission's rules.

4. The utility shall annually examine and evaluate its achievements in attaining the CESP planning objectives as identified in this CESP Framework.

5. The utility is responsible for ensuring that the planning process and resulting CESP action plans are compliant with the general principles and requirements of the framework.

D. Commission's Responsibility

1. The commission's responsibility, in general, is to determine whether the CESP scenarios and the utility's CESP action plan represent a reasonable course of programs and strategies for meeting the future energy needs of the utility's customers, and are in the public interest, consistent with the CESP Framework and the state goals of energy security and energy independence.

2. Specifically, the commission will review the CESP scenarios, the utility's CESP action plan or plans, including the implementation schedule, the supporting analyses and evaluations, and generally monitor the utility's implementation of its CESP action plan. The utility will file the CESP scenarios and CESP action plan with the commission in accordance with the file and suspend provisions of Section 269-16(b), HRS.

3. The commission will review the utility program applications including all supporting analysis for each resource, program, or project in an approved CESP action plan, and shall make every effort to complete its deliberations and issue its decision as expeditiously as possible and before nine months from the date the utility filed its completed application, in accordance with Section 269-16(d), HRS.

4. The commission shall establish the target goals of the demand-side management and energy efficiency programs referenced in Section 269-121, HRS, to be achieved by the public benefits fee administrator, upon initiation of a docket for each planning cycle.

E. Consumer Advocate's Responsibility

1. The director of commerce and consumer affairs as the consumer advocate shall represent, protect, and

advance the interests of all consumers, including small businesses, in the utility planning process.

2. As consumer advocate, the director of commerce and consumer affairs shall have full rights to participate as party in interest in all CESP-related proceedings to ensure that the utility's action plans promote the interest of utility consumers.

3. As consumer advocate, the director of commerce and consumer affairs shall be a de-facto member of any and all technical working groups or advisory group established by the utility in the development of its CESP scenarios and CESP action plan as required by the framework.

F. Public Benefits Fee Administrator

1. The public benefits fee administrator shall be responsible for identifying, developing, managing, and implementing the demand-side management and energy efficiency programs and services pursuant to Section 269-121 and Section 269-123, HRS.

2. The public benefits fee administrator shall be responsible for achieving the goals of the demand-side management and energy efficiency programs and services established by the commission and referenced in Section 269-121, HRS.

3. The public benefits fee administrator in collaboration with the utility and the technical working groups shall be responsible for designing and developing demand-side and energy efficiency programs and delivery mechanisms to achieve the commission-established goals and which are included in the utility action plan.

4. The public benefits fee administrator shall be responsible for developing all analyses for the demand-side and energy efficiency programs under its purview and shall provide all such analyses to the utility in a timely manner for use in scenario planning and in developing the utility action plan as well as in filing with the commission as required by the framework.

5. The public benefits fee administrator shall be a member of any and all working groups and/or advisory group that the utility may be required to establish in

developing the CESP scenarios and CESP action plans as required by the framework.

6. The public benefits fee administrator shall be a party in interest in all CESP-related dockets as may be deemed necessary and appropriate by the commission.

7. The public benefits fee administrator shall assist and participate in all CESP-related public meetings or public workshops by the utility as required by the framework.

III. The Planning Method

A. Major Steps

There are four major steps in the CESP planning process: planning, action plan development, implementation, and evaluation.

1. The planning process generally includes but is not limited to the following steps/activities:

   a. Specify the scope of the planning and its time frame.
   b. Identify and define the strategic or focal issues and decisions to be made.
   c. Develop a clear definition and understanding of the present situation or situations that will serve as the common departure point for each of the scenarios.
   d. Identify the long-term and/or large scale forces or events that could push the future in different directions.
   e. Identify the predetermined elements that are virtually certain to occur and that could be the driving forces for any scenario. These predetermined elements are outside of the utility's control and will play out in any future outlook.
   f. Identify, define, assess, understand, and quantify where feasible the critical uncertainties or forces that affect the focal issues and decisions to be made.
   g. Analyze and understand the inter-relationships and interactions between the critical driving forces and/or uncertainties that are most important to the focal issues and decisions to be made.
   h. Select the critical and related uncertainties or driving forces and sort into a scenario matrix of

logical and plausible futures to consider and explore in the utility's resource and infrastructure planning for meeting the consumers' future energy needs and requirements.

i. Develop the required forecasts assumptions.

j. Develop and analyze the strategy or plan of action for each scenario, including the identification and analysis of the required supply-side and demand-side resources, programs and policies, including the transmission and delivery infra-structure requirements.

k. Develop cost-benefit analyses of the strategies or plans for each scenario, including the expected results.

l. Identify the strategy or plan of action that makes sense across all of the scenarios of the future to include in the utility action plan.

2. Action Plan Development process generally includes but is not limited to the following steps and/or activities:

a. Develop a detailed cost-benefit analysis of each strategy, resource, or program included in the action plan.

b. Determine the order in which each selected strategy, resource, or program is implemented consistent with the framework's general principles, and develop an implementation schedule.

c. Determine the phases or steps in which each strategy, resource, or program is to be implemented where a phase-in implementation approach is reasonable and warranted.

d. For demand-side programs or strategies, define the expected target group including the expected program results.

e. Identify the expected and/or required annual supply-side capacity additions by type, consistent with the framework's planning objectives and general principles.

f. Develop an estimate of the annual utility expenditures by cost type required to implement each strategy, resource or program included in the utility action plan.

g. Define and develop the method of measuring and evaluating the action plan's achievement of the framework's planning objectives.

3. Implementation is that process by which the utility's action plan is implemented and generally includes but is not limited to the following steps and/or activities:

   a. Utility filing of the planning scenarios for commission review and approval, including all supporting documentation and analyses as required by the framework, and in accordance with the file and suspend provisions of Section 269-16(b), HRS.
   b. Utility filing of the action plan for commission review and approval, including all supporting analysis as required by the framework, and in accordance with the file and suspend provisions of Section 269-16(b), HRS.
   c. Develop a detailed cost-benefit analysis and evaluation measures for each strategy, resource, and program included in the action plan.
   d. Utility filing of program applications for commission review and approval for each strategy, resource and program included in the action plan, with all supporting data, information, and analysis in accordance with the commission's rules. The commission shall issue its decision on each program application as expeditiously as possible, and before nine months from the date the utility filed its completed application, in accordance with Section 269-16(d), HRS.
   e. Implementation of the strategy and programs, and the acquisition of resources included in the action plan, in accordance with the action plan implementation schedule as approved by the commission.

4. Evaluation is that process by which the results of the action plan in achieving the framework's planning objectives are measured. In this process the actual costs, effectiveness, and benefits of each strategy, resource, and program in the action plan and the attainment of the planning objectives are measured against those that were projected in the action plan and program applications.

B. The Planning Cycle

1. Each utility shall complete its planning scenarios and initial action plan and submit them for commission approval by the following dates:

a. Kauai Island Utility Cooperative: 18-months from date of issue of the commission's order in the above-captioned docket.

b. Gasco, Inc.: 18-months from date of issue of the commission's order in the above-captioned docket.

c. Hawaiian Electric Company, Inc.: 18-months from date of issue of the commission's order in the above-captioned docket.

d. Hawaii Electric Light Company, Inc.: 18-months from date of issue of the commission's order in the above-captioned docket.

e. Maui Electric Company, Limited: 18-months from date of issue of the commission's order in the above captioned docket.

2. The planning scenarios will have a 20-year time horizon beginning with the calendar year immediately following the date of issue of the commission's order in the above-captioned docket. The action plans will include the plan implementation schedule for the initial 5-years of the 20-year planning horizon covered by the planning scenarios.

3. Each utility shall conduct and file with the commission an annual review and evaluation of each strategy, resource, and program included in the action plan.

4. Each utility shall conduct a major review of its planning scenarios every three years. In such a review, a new 20-year time horizon shall be adopted, the planning process repeated, and the utility's action plan fully evaluated, changed, or updated. The first major review of each utility's initial planning scenarios and action plan shall commence in January of the 3rd year following the utility's initial filings.

Thereafter, each utility shall conduct a major review, resulting in the submission to the commission of a new integrated resource plan and implementation schedule every three years.

C. The Docket

1. Each planning cycle for a utility will commence with the issuance of an order by the commission opening a docket for that utility's scenario planning.

2. The docket shall remain open throughout the planning cycle for the filing of documents, the resolution of procedural disputes, and other purposes related to the utility's integrated resource plan.

3. Within 30 days after the opening of the docket or within the schedule indicated by the commission's order initiating the docket, the utility shall prepare, in consultation with the consumer advocate, and file with the commission a proposed schedule in the development of its planning scenarios and action plan. The schedule may be amended upon the formation of technical working groups and/or an advisory group as required by the framework, or by commission approval of motions for participation or intervention by third parties, and thereafter as appropriate and approved by the commission.

4. The utility shall complete its planning scenarios and action plan within one year of the commencement of the planning cycle.

D. Submissions to the Commission

1. For each three-year planning cycle, the utility shall submit its planning scenarios and action plan as follows:

a. The utility shall file with the commission a full and detailed description and all supporting information for each planning scenario it identified and explored, including but not limited to the following:

(1) The focal issues and decisions to be addressed.
(2) A clear definition of the present situation or situations that will serve as the common departure point for each of the scenarios.
(3) The list of long-term and/or large scale forces or events that could push the future in different directions.
(4) The predetermined elements that are virtually certain to occur and that could be the driving forces for any scenario.
(5) The analysis of the critical uncertainties or forces that affect the focal issues and decisions to be made.
(6) The forecasts' assumptions, including all the supporting workpapers, and a

description of the forecast methodology and data used.

(7) The strategy or plan of action for each scenario, including the identification and analysis of the required supply-side and demand-side resources, programs and policies, including the transmission and delivery infra-structure requirements.

(8) Cost-benefit analyses of the overall strategies or plans for each scenario, including the expected results.

(9) The list of strategies, resources, and programs included in the action plan, including the selection criteria and description of the analysis method used.

(10) A detailed cost-benefit analysis of each strategy, resource, or program included in the action plan, including the assumptions used in the analysis.

(11) A Locational Value Map and a description of how it was used in the selection of the strategies, resources, and programs included in the action plan.

(12) The expected target groups and expected program results of the demand-side options included in the action plan, including all supporting data and analysis.

(13) The estimated annual supply-side capacity additions by resource type.

(14) The estimate of the annual utility expenditures by cost type required to implement each strategy, resource or program included in the utility action plan.

(15) The method of measuring and evaluating the action plan's achievement of the framework's planning objectives.

(16) An estimate of the impact of the action plan on rates, consumer bills, consumer energy use, achievement of the state energy goals, environment, and economy.

b. The submissions should be simply and clearly written and, to the extent possible, in non-technical language. Charts, graphs, and other visual devices may be utilized to aid in understanding the action plan and the analyses by the utility. The utility shall provide an executive summary of the planning scenarios used and explored, the action plan, and the analyses, and shall appropriately index its submissions.

2. The utility shall submit its action plan implementation schedule as follows:

   a. The utility shall include in the schedule by year: the programs or phases of programs to be implemented in the year; the expected level of achievement of objectives; the expected size of the target group or level of penetration of any demand-side management program; the expected supply-side capacity addition; and the expenditures by cost type.

   b. The utility shall file with its action plan implementation schedule a full and detailed description of the analysis upon which the schedule is based. The utility shall fully describe, among other things:

      (1) The steps required to realize and implement the supply-side and demand-side resource programs included in the schedule.

      (2) How the target groups were selected and how program penetration for demand-side options and the expected results were derived.

      (3) The expected annual effects of program implementation on the utility and its system, the ratepayers, the environment, public health and safety, cultural interests, the state economy, and society in general.

   c. The program implementation schedule shall also include the utility's proposal for cost recovery method if appropriate.

3. The utility shall submit its annual evaluation including the following:

   a. An assessment of the continuing validity of the forecasts and assumptions upon which its integrated resource plan and its program implementation schedule were fashioned.

   b. A comparison of the estimated expenditures and the actual incurred expenses for the year, and the reasons for the differences.

   c. A comparison of the planning objectives actually achieved by each strategy, resource or program

included in the action plan, and the forecasted or estimated results for the year including the reasons for the differences.

d. Together with its annual evaluation, the utility shall submit a revised program implementation plan that drops the immediately preceding year from the schedule and includes a new year. The program implementation plan must always reflect a five-year time span.

4. The utility may at any time, as a result of its annual evaluation or change in conditions, circumstances, or assumptions, revise or amend its action plan. All revisions and amendments must conform to the appropriate requirements of the framework.

5. The utility action plan approved by the commission shall be a major consideration in commission approval of all utility expenditures for capital projects, purchased power, and utility-controlled demand-side programs. Notwithstanding approval of an action plan: (a) an expenditure for any capital project in excess of $500,000 shall be submitted to the commission for review as provided in paragraph 2.3.g.2 of General Order No.7; and (b) no obligation under any purchased power contract shall be undertaken and no expenditures for any specific utility-controlled demand-side program included in an action plan shall be made without prior commission approval.

E. Public Participation

To maximize public participation in each utility's integrated resource planning process, opportunities for such participation shall be provided through technical working groups, advisory groups to the utility, public hearings, and interventions in formal proceedings before the commission.

1. Technical working groups

a. The utility shall organize technical working group or groups to assist and work with the utilities in developing the following specific steps in the planning process: (1) development of the planning scenarios; (2) development of the forecast assumptions; (3) development of the strategy for each scenario; and (4) selection of the strategy, resources, or programs to include in the action plan.

b. The membership of technical working group or groups shall include utility staff and non-utility representatives from the office of the department of commerce and consumer affairs; the public benefits fee administrator; department of business, economic development and tourism's energy office; the relevant county's planning office; as well as representatives from environmental, business, and consumer interest groups.

c. The technical working groups' non-utility members shall have the requisite skills and expertise, and be able and willing to devote the time required to substantively participate in the working groups' activities or assigned tasks.

d. The technical working groups will be co-chaired by the utility and a non-utility member.

e. The role of the technical working group or groups may include co-chairing the working group, working with the utilities in developing the scenarios and forecast assumptions, selecting the strategy or program or resource to include in the action plan, compiling data, reviewing CESP-related reports filed with the commission as may be required under the framework, participating and helping the utilities in conducting the advisory group meetings and all or any CESP-related public meetings or workshops.

2. Advisory groups

a. The utility shall organize in each county in which the utility provides service or conducts utility business an advisory group consisting of representatives of public and private entities whose interests are affected by the utility's resource plan and that can provide important perspective to the utility's planning process.

b. The utility shall chair each advisory group.

c. The member entities shall include the state and county agencies and environmental, cultural, business, and community interest groups. An advisory group should be representative of as broad a spectrum of interests as possible, subject to the limitation that the interests

represented should not be so numerous as to make deliberations as a group unwieldy.

d. The utility shall consider and incorporate the input of the advisory group in the development of the planning scenarios and action plan where appropriate.

e. All data reasonably necessary for the advisory group to participate in the utility's planning process shall be provided by the utility, subject to the need to protect the confidentiality of customer-specific and proprietary information.

3. Participants' Costs

All reasonable out-of-pocket costs incurred by participants in the technical working groups or advisory group (other than governmental agencies) shall be paid for by the utility, subject to recovery as part of the utility's cost of scenario planning. The type of out-of-pocket costs and the amount paid by the utility to each participant shall be subject to commission approval.

4. Public Information Meetings

a. The utility shall conduct public informational meetings or webinars at the various, discrete phases of the planning process for the purpose of securing the input of those members of the public who are not represented by entities constituting advisory groups.

b. Upon the filing of the utility's planning scenarios and action plan, the commission may, and shall where required by statute, conduct public hearings for the purpose of securing public input on the utility's filing.

5. Intervention

a. Upon the filing of its action plan, the utility shall cause to be published in a newspaper of general circulation in the State a notice informing the general public that the utility has filed its proposed action plan with the commission for the commission's approval.

b. To encourage public awareness of the filing of a proposed utility plan, a copy of the proposed

plan and the supporting analyses shall be available for public review at the commission's office and at the office of the commission's representative in the county serviced by the utility. In the case of Maui Electric Company, Limited, the utility shall also make a copy of its proposed plan and the supporting analyses available at a public library on each of the islands of Molokai and Lanai. In the case of Hawaii Electric Light Company, Inc., the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library in Kona. Each utility shall note the availability of the documents for public review at these locations in its published notice. The utility shall also place the plan documents on its website.

c. Applications to intervene or to participate without intervention in any proceeding in which a utility seeks commission approval of its action plan are subject to the rules prescribed in part IV of the commission's General Order No. 1 (Practice and Procedure before the Public Utilities Commission); except that such applications may be filed with the commission not later than 20 days after the publication by the utility of a notice informing the general public of the filing of the utility's application for commission approval of its integrated resource plan, notwithstanding the opening of the docket before such publication.

6. Intervenor funding

a. Upon the issuance of the commission's final order on a utility's action plan or any amendment to the plan, the commission may grant an intervenor or participant (other than a governmental agency, a for-profit entity, and an association of for-profit entities) recovery of all or part of the intervenor's or participant's direct out-of-pocket costs reasonably and necessarily incurred in intervention or participation. Any recovery and the amount of such recovery are in the sole discretion of the commission.

b. To be eligible for such recovery:

(1) The intervenor or participant must show a need for financial assistance;

(2) The intervenor or participant must demonstrate that it has made reasonable efforts to secure funding elsewhere, without success;

(3) The intervenor or participant must maintain accurate and meaningful books of account on the expenditures incurred; and

(4) The commission must find that the intervenor or participant made a substantial contribution in assisting the commission in arriving at its decision.

c. The intervenor's or participant's books of account are subject to audit, and the commission may impose other requirements in any specific case.

d. Such allowance may be made only upon the application of the intervenor or participant within 20 days after the issuance of the commission's final order, together with justification and documented proof of the costs incurred.

e. The costs of intervenor funding shall be paid for by the utility, subject to recovery as part of its costs of scenario planning.

F. Cost Recovery and Incentives

1. The utility is entitled to recover its resource planning and implementation costs that are prudent and reasonably incurred and which are incremental to the utility's normal costs of doing business.

2. The utility's program applications for each strategy, resource, or program included in the action plan shall include the estimated costs and proposed cost recovery method. The cost recovery method shall be as determined and approved by the commission.

IV. Planning Considerations

A. Scenarios of Possible Futures
The utility shall develop a set of scenarios of plausible futures to highlight the major driving forces and/or uncertainties that may push the future in different directions, and are critical to the focal issues or decisions in the utility's resource planning.

B. Locational Value Maps
The utility shall develop Locational value maps showing the geographic areas of the utility's delivery system where renewable resources, distributed generation and/or energy efficiency may be most beneficial to the system, as well as the existing delivery systems in the forecasted growth areas.

C. Forecasts

1. The utility shall develop a range of forecasts of the variables or elements required for scenario planning such as the amount of energy consumers will need over the planning horizon, fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, other similar variables. The utility shall develop forecasts for multiple scenarios that are necessary or appropriate in the development of its action plan.
2. Each forecast shall identify the significant demand and use determinants; describe the data, the sources of the data, and the analysis upon which the forecast is based; indicate the relative sensitivity of the forecast result to changes in assumptions and varying conditions; and describe the procedures, methodologies, and models used in the forecast, together with the rationale underlying the use of such procedures, methodologies, and models.

D. Planning Objectives

1) To meet the consumers' future energy needs in an integrated, efficient, reliable, and cost-effective manner, with reduced use of imported fossil fuel.

2) To achieve the State goals of energy independence and security and its attendant economic and environmental benefits, by meeting or surpassing the statutorily mandated renewable portfolio standards (RPS) and energy efficiency portfolio standards (EEPS).

3) To identify and plan for the required transmission and delivery infrastructure upgrades and expansions necessary to increase the system capability and resiliency to meet the consumers' future energy needs with the use of clean renewable energy resources and technology consistent with the State energy goals.

4) The commission may specify other objectives for the utility. Such specifications, if any, shall be included in the order opening a docket for scenario planning at the commencement of each planning cycle.

E. Effectiveness Measures

1. The utility shall specify the measures by which attainment of the objective or objectives is to be determined.

2. Where direct, quantifiable measures are not available, the utility may utilize proxy measures.

F. Resource Options

1. In the development of the strategy for each scenario, the utility shall consider all feasible supply-side and demand-side resource options

appropriate to Hawaii and available within the years encompassed by the scenario planning horizon to meet the stated objectives.

2. The utility may include among the options the supply-side and demand-side resources or mixes of options currently in use, promoted, planned, or programmed for implementation by the utility. Supply-side and demand-side resource options include those resources that are or may be supplied by persons other than the utility.

3. The utility must consider all supply-side and demand-side resources that may be provided or acquired through all procurement methods or programs, including net energy metering and feed-in tariffs programs, and other programs or initiatives designed to promote customer-owned and/or customer-sited renewable energy systems.

G. Data Collection

1. For each feasible resource option, the utility shall determine its life cycle costs and benefits and its potential level of achievement of objectives. The utility shall identify the option's total costs and benefits - the costs to the utility and its ratepayers and the indirect, including external (spillover), costs and benefits. External costs and benefits include the cost and benefit impact on the environment, people's lifestyle and culture, and the State's economy.

2. The costs and benefits shall, to the extent possible be (a) quantified and (b) expressed in dollar terms. When it is not possible to quantify any cost or benefit, such cost or benefit shall be qualitatively measured. The methodology used in quantifying or in qualitatively stating costs and benefits shall be detailed.

H. Models

1. The utility may utilize any industry planning models or methodology in comparing resource options and analyzing the relative values of the various options or combinations of options.

2. Each model or methodology used must be fully described and documented.

I. Analyses

1. The utility shall conduct cost-benefit and cost-effectiveness analyses to compare each strategy, resource, and program included in the action plan.

2. The utility may conduct such analyses from varying perspectives, including the utility cost perspective, the ratepayer impact perspective, the participant impact perspective, the total resource cost perspective, and the societal cost perspective.

3. The utility shall analyze all supply-side and demand-side options on a consistent and comparable basis.

4. The utility shall compare the options on the present value basis. For this purpose, the utility shall discount the estimated annual costs (and benefits, as appropriate) at an appropriate rate. The utility shall provide the basis for its choice of the discount rate.

~~Attachment I~~

Exhibit B

PUBLIC Utilities COMMISSION
STATE OF HAWAII

A FRAMEWORK FOR ~~INTEGRATED RESOURCES~~ CLEAN ENERGY SCENARIO PLANNING
~~March 9, 1992~~
FEBRUARY , 2010

A. Definitions

Unless otherwise clear from the context, as used in this framework:

"Action Plan" or "CESP Action Plan" is a strategy for serving Hawaii's future energy needs and requirements in a manner that is consistent with the planning framework, and includes executable or actionable programs, measures, and/or policies with an implementation schedule or timetable.

"Clean energy" means electrical energy generated using renewable energy as a source or as electrical energy savings resulting from the use of energy efficiency technologies or measures such as renewable displacement or off-set technologies, as well as electrical energy savings from conservation, and demand-side management programs including demand response programs and rate design.

"Clean Energy Objectives" means reducing Hawaii's dependence on imported fossil fuels and increasing Hawaii's energy self-sufficiency and energy security through energy efficiency and increased use of clean renewable energy resources.

"Capital investment costs" means costs associated with capital improvements, including planning, the acquisition and development of land, the design and construction of new facilities, the ~~making of~~ renovations or additions to existing facilities, the construction of built-in equipment, and consultant and staff services in planning, design, and construction. Capital investment costs for a program are the sum of the program's capital improvement project costs.

"Costs" means the full and life cycle costs of a resource option.

"Cost categories" means the major types of costs and includes research and development costs, investment costs or capital expenditures, ~~and~~ energy efficiency programs or DSM costs,

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operating and maintenance costs including fuel and purchased power costs, taxes, and depreciation expense.

~~"Cost elements" means the major subdivisions of a cost category. For example the category "investment costs," it includes capital investment costs, initial equipment and furnishing costs, and initial education and training costs. For the categories "research and development costs" and "operating and maintenance costs," it includes labor costs, fuel costs, materials and supplies costs, and other current expenses.~~

"Demand-side management" or "DSM" ~~programs~~ means programs designed to influence utility customer uses of energy to produce desired changes in demand and energy consumption. It includes conservation, load management, rate design, ~~and~~ and efficiency resource programs.

"Design costs" means the costs related to the preparation of architectural drawings for capital improvements, from schematics to final construction drawings.

"Distributed Generation" means small-scale electric generating technologies installed at, or in close proximity to, the end-user's location.

"Effectiveness measure" means the criterion for measuring the degree to which the objective sought is ~~attained~~ achieved.

"External benefits" means external economies; benefits to or positive impacts on the activities of entities outside the utility and its ratepayers. External benefits include environmental, cultural, and general economic benefits.

"External costs" means external diseconomies; costs to or negative impacts on the activities of entities outside the utility and its ratepayers. External costs include environmental, cultural, and general economic costs.

"Feed-in-Tariff" or "FIT" means a Commission-approved utility tariff providing standardized and published purchased power rates, including terms and conditions, used by the utility to acquire or purchase renewable energy from third-party renewable energy developers or producers.

"Full cost" means the total cost of a program, system, technology, or ~~capability~~ resource, including research and development costs,

capital investment costs, ~~and~~ operating and maintenance costs, and taxes.

"Investment costs" means the one-time costs beyond the development phase to introduce a new system, program, technology, or ~~capability~~ resource into use. It includes capital investment costs, initial equipment acquisition costs, and initial education and training costs.

"Life cycle costs" means the total cost impact over the life of the program. Life cycle costs include research and development cost, investment cost (the one-time cost of instituting the program), and operating and maintenance (O&M) cost, including taxes and depreciation.

"Locational Value Map" or "LVM" means geographic areas of an electric utility's distribution system growth within the next 3-5 years where distributed resources and energy efficiency could be beneficial within the existing transmission and distribution system limits.

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"Net Energy Metering" or "NEM" means measuring the difference between the electricity supplied by the utility to the consumer through the electric grid and the electricity generated by an eligible customer-generator and fed back to the electric grid over a specified period as defined in HRS ch. 269, part VI, section 269-101.

"Objective" means a statement of the end result, product, or condition desired, for the accomplishment of which a course of action is taken.

"Operating and maintenance costs" or "O&M costs" means recurring costs of operating, supporting, and maintaining authorized programs, including costs for labor, fuel, purchased power, materials and supplies and other ~~current~~ recurring expenses.

"Participant impact" means the impact on participants in a demand-side management program in terms ~~i~~of the costs borne and the direct, economic benefits received by the participants.

"Planning Objectives" means the desired outcome to be accomplished by the utility resource plans or action plans.

"Program" means a project, or a resource, or an activity, or a policy, or a strategy, or a combination or suite of projects,

activities, policies, and/or strategies ~~resources and activities designed to achieve an objective or objectives~~ in a scenario or action plan or resource plan.

~~"Program size" means the magnitude of a program, such as the number of persons serviced by the program, the amount of a commodity, the time delays, the volume of service in relation to population or area, etc.~~

~~"Program size indicator" means a measure to indicate the magnitude of a program.~~

"Public Benefit Fee Administrator" or "PBF Administrator" means the third-party administrator of energy efficiency demand-side management programs as defined in chapter 269, part VII, section 269-122, HRS.

"Ratepayer impact" means the impact on ratepayers in terms of the utility rates that ratepayers ~~must~~ must pay.

"Renewable Portfolio Standards" or "RPS" means the current law governing the State of Hawaii as defined in chapter 269, part V, HRS.

"Research and development costs" means costs associated with the development of a new system, program, technology, or resource ~~capability~~ to the point where it is ready for introduction into operational use. It includes the costs of prototypes and the testing of the prototypes. It includes the costs of research, planning, and testing and evaluation.

"Scenario" is a probable future circumstance or set of probable future circumstances that are external to and are beyond the utility's control, and which could have significant impact on the utility's resource planning for meeting future electricity needs and demand.

"Scenario Planning" is a tool or process for learning and understanding the nature and impact of the most uncertain and important driving forces in the future energy environment that could and would affect the utility's obligation of meeting and supplying the consumers' future energy needs and requirements.

"Societal cost" means the total direct and indirect costs to society as a whole. "Society" includes the utility and, in a demand-side management program, the participants.

"Societal cost-benefit assessment" means an assessment of the costs and benefits to society as a whole.

"Supply-side programs" means programs, resources, or technologies designed to supply, generate or produce power. It includes renewable energy.

"Total resource cost" means the total cost of a demand-side management program, including both the utility and participants' costs.

"Utility" or "Public Utility" means the electric and utility gas companies providing electric or gas utility service in the State of Hawaii, as defined in Section 269-1,HRS.

"Utility cost" means the cost to the utility ~~(including ratepayers)~~, excluding costs incurred by participants in a demand-side management ~~program~~ or energy efficiency programs.

"Utility cost-benefit assessment" means an assessment of the costs and benefits to the utility.

B. Introduction

A. Goal of ~~Integrated Resource~~ Clean Energy Scenario Planning

~~The goal of integrated resource planning is the identification of the resources or the mix of resources for meeting near and long term consumer energy needs in an efficient and reliable manner at the lowest reasonable cost.~~

The goal of Clean Energy Scenario Planning (CESP) is the identification of the utility's action plan or plans including generation resources and delivery infrastructure requirements for meeting Hawaii's future energy needs and requirements for energy self-sufficiency and security in an integrated, efficient, reliable, and cost-effective manner under a range of scenarios of energy futures.

B. Governing Principles ~~(Statements of Policy)~~

1. The development of ~~integrated resource~~ CESP action plans to meet future energy needs is the responsibility of each

utility and requires public input, review and approval by the Commission.

2. ~~Integrated resource~~ CESP action plans shall comport with federal, state and county environmental, health, and safety laws ~~and~~ as well as formally adopted state and county plans.

3. The CESP scenarios shall be developed upon consideration of providing reasonable and probable futures that would help define, identify, and mitigate the risks and uncertainties in developing a program or strategy in meeting the consumers' future energy needs.

~~3.~~4. ~~Integrated resource plans~~ CESP action plans shall be developed upon consideration and analyses of the short-term and long-term costs, effectiveness, and benefits of all appropriate, available, and feasible supply-side resources and demand-side options, including demand response or load management programs and rate design.

5. The CESP action plans shall be developed upon consideration and analyses of the associated transmission and delivery infrastructure requirements and costs, including operational changes, grid upgrades, system capacity additions or replacements.

6. The associated transmission and delivery infrastructure plans shall be developed upon consideration of adoption of appropriate, applicable and cost-effective technological advances such as smart grid, energy storage, and any other technological grid improvements, as well as changes in the utility's operating procedures.

~~4.~~7. ~~Integrated resource~~ CESP action plans shall give consideration to the plans' impacts upon the utility's consumers, service quality and reliability, the environment, culture, community lifestyles, the State's energy security, energy independence, economy, and society.

~~5.~~8. ~~Integrated resource~~ CESP action plans shall take into consideration the utility's financial integrity, size, and physical capability.

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~~6.~~9. ~~Integrated resource~~ CESP planning shall be an open public process that promotes and provides ~~.~~ ~~O~~opportunities ~~shall be provided~~ for participation by the public and governmental agencies in the development and in commission review of ~~integrated resource~~ CESP action plans.

10. CESP action plans shall prioritize resource acquisition and program implementation such that energy efficiency programs including demand response and rate design, and renewable energy resources are first optimized before consideration is given to fossil-based resources.

11. CESP action plans shall promote and encourage the increased use of distributed generation or dispersed generation over fossil-based central generation stations.

12. The utility is entitled to recover all prudently incurred ~~appropriate~~ and reasonable ~~integrated resource~~ CESP planning and implementation costs. ~~In addition, existing disincentives should be removed and, as appropriate, incentives should be established to encourage and reward aggressive utility pursuit of demand-side management programs. Incentive mechanisms should be structured so that investments in suitable and effective demand-side management programs are at least as attractive to the utility as investments in supply-side options.~~

~~7.~~

C. Utility's Responsibility

1. Each utility is responsible for developing a CESP action plan or plans for meeting the future energy needs of its customers and at the same time achieve or surpass the statutory requirements for achieving the state goals of energy independence and security.

2. The utility shall prepare and submit to the commission for commission approval at the time or times specified in this framework the utility's ~~integrated resources~~ CESP action plan ~~and program implementation schedule~~ including

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the scenario or range of scenarios and supporting analyses.

3. The utility shall execute the commission approved CESP action plan or plans. ~~in accordance with the program implementation schedule.~~ The utility's execution of the CESP action plan or plans shall include the filing of applications for Commission approval of the programs or resource acquisitions included in the CESP action plan or plans in accordance with the commission's rules.

4. The utility shall annually examine and evaluate its achievements in attaining ~~its~~ the CESP planning objectives as identified in this CESP Framework.

~~4.~~5. The utility is responsible for ensuring that the planning process and resulting CESP action plans are compliant with the general principles and requirements of the framework.

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D. Commission's Responsibility

1. The commission's responsibility, in general, is to determine whether the CESP scenarios and the utility's CESP action plan represents a reasonable course of programs and strategies for meeting the future energy needs of the utility's customers, ~~and is~~ and are in the public interest, ~~and~~ consistent with the CESP Framework and the state goals ~~and objectives of integrated resource planning~~ of energy security and energy independence.

~~2.~~ Specifically, the commission will review the CESP scenarios, the utility's CESP action plan or plans, ~~integrated resource plan, its program~~ including the implementation schedule, ~~and its~~ the supporting analyses and evaluations, and generally monitor the utility's implementation of its CESP action plan. ~~Upon review, the commission may approve, reject, approve in part and reject in part, or require modifications of the utility's integrated resources plan and program implementation schedule.~~ The utility will file the CESP scenarios and CESP action plan with the commission in accordance with the file and suspend provisions of Section 269-16(b), HRS.

2. The commission will review the utility program applications including all supporting analysis for each resource, program, or project in an approved CESP action plan, and shall make every effort to complete its deliberations and issue its decision as expeditiously as possible and before nine months from the date the utility filed its completed application, in accordance with Section 269-16(d), HRS.

3. The commission shall establish the target goals of the demand-side management and energy efficiency programs referenced in Section 269-121, HRS, to be achieved by the public benefits fee administrator, upon initiation of a docket for each planning cycle.

~~3. The parties shall cooperate in expediting commission hearings on the utility's integrated resource plan and program implementation schedule. To the extent possible, the commission will hear the utility's application for approval of its integrated resource plan within six months of the plan's filing, and the commission will render its decision shortly thereafter.~~

E. Consumer Advocate's Responsibility

1. The director of commerce and consumer affairs as the ~~, as the~~ consumer advocate shall represent, protect, and advance the interests of all consumers including small businesses in the utility planning process. ~~and through the division of consumer advocacy, has the statutory responsibility to represent, protect, and advance the interest of consumers of utility services. The consumer advocate, therefore, has the duty to ensure that the utility's integrated resource plan promotes the interest of utility consumers.~~

2. As ~~The~~ consumer advocate, the director of commerce and consumer affairs shall have full rights to participate as party in interest in all CESP-related proceedings to ensure that the utility's action plans promote the interest of utility consumers. ~~be a party to each utility's integrated resources planning docket and~~

~~2.~~ As consumer advocate, the director of commerce and consumer affairs will be a de-facto member of any and all

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technical working groups or advisory group~~s~~ established by the utility in the development of its CESP scenarios and ~~integrated resource~~ CESP action plan as required by the framework. ~~The consumer advocate shall also participate in all public hearings and other sessions held in furtherance of the utility's efforts in integrated resource planning.~~

F. Public Benefits Fee Administrator

1. The public benefits fee administrator shall be responsible for the identifying, developing, managing, and implementing the demand-side management and energy efficiency programs and services pursuant to Section 269-121 and Section 269-123, HRS.

2. The public benefits fee administrator shall be responsible for achieving the goals of the demand-side management and energy efficiency programs and services established by the commission and referenced in Section 269-121, HRS.

3. The public benefits fee administrator in collaboration with the utility and the technical working groups shall be responsible for designing and developing demand-side and energy efficiency programs and delivery mechanisms to achieve the commission-established goals and which are included in the utility action plan.

4. The public benefits fee administrator shall be responsible for developing all analyses for the demand-side and energy efficiency programs under its purview and shall provide all such analyses to the utility in a timely manner for use in scenario planning and in developing the utility action plan as well as in filing with the commission as required by the framework.

5. The public benefits fee administrator shall be a member of any and all working groups and/or advisory group that the utility may be required to establish in developing the CESP scenarios and CESP action plans as required by the framework.

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6. The public benefits fee administrator shall be a party in interest in all CESP-related dockets as may be deemed necessary and appropriate by the commission.

7. The public benefits fee administrator shall assist and participate in all CESP-related public meetings or public workshops by the utility as required by the framework.

C. The Planning ~~Context~~Method

A. Major Steps

There are four major steps in the CESP ~~the integrated resource~~ planning process: planning, ~~programming~~ action plan development, implementation, and evaluation.

1. The pPlanning process generally includes but is not limited to the following steps activities:

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a. Specify the scope of the planning and its time frame.
b. Identify and define the strategic or focal issues and decisions to be made.
c. Develop a clear definition and understanding of the present situation or situations that will serve as the common departure point for each of the scenarios.
d. Identify the long-term and/or large scale forces or events that could push the future in different directions.
e. Identify the predetermined elements that are virtually certain to occur and that could be the driving forces for any scenario. These predetermined elements are outside of the utility's control and will play out in any future outlook.
f. Identify, define, assess, understand, and quantify where feasible the critical uncertainties or forces that affect the focal issues and decisions to be made.
g. Analyze and understand the inter-relationships and interactions between the critical driving forces and/or uncertainties that are most important to the focal issues and decisions to be made.

h. Select the critical and related uncertainties or driving forces and sort into a scenario matrix of logical and plausible futures to consider and explore in the utility's resource and infrastructure planning for meeting the consumers' future energy needs and requirements.

i. Develop the required forecasts assumptions.

j. Develop and analyze the strategy or plan of action for each scenario, including the identification and analysis of the required supply-side and demand-side resources, programs and policies, including the transmission and delivery infra-structure requirements.

k. Develop cost-benefit analyses of the strategies or plans for each scenario, including the expected results.

l. Identify the strategy or plan of action that makes sense across all of the scenarios of the future to include in the utility action plan.

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~~1. is that process in which the utility's needs are identified, the utility's objectives are formulated; measures by which effectiveness in attaining objectives are specified, the alternatives by which the objectives may be attained are identified, the full cost, effectiveness, and benefit implications of each alternative are determined; the assumption, risks, and uncertainties are clarified, the cost, effectiveness, and benefit tradeoffs of the alternatives are made, the resource options are chosen; and program choices are subjected to sensitivity analyses. The product of this process is the utility's integrated resource plan. The planning horizon for utility integrated resource plans is 20 years. Unless otherwise ordered by the commission, the 20 year period begins on January 1 following the completion of the plan.~~

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2. Action Plan Development ~~Programming~~ generally includes but is not limited to the following steps and/or activities:

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a. Develop a detailed cost-benefit analysis of each strategy, resource, or program included in the action plan.

b. Determine the order in which each selected strategy, resource, or program is implemented consistent with the framework's general principles, and develop an implementation schedule.

c. Determine the phases or steps in which each strategy, resource, or program is to be implemented where a phase-in implementation approach is reasonable and warranted.

d. For demand-side programs or strategies, define the expected target group including the expected program results.

e. Identify the expected and/or required annual supply-side capacity additions by type, consistent with the framework's planning objectives and general principles.

f. Develop an estimate of the annual utility expenditures by cost type required to implement each strategy, resource or program included in the utility action plan.

g. Define and develop the method of measuring and evaluating the action plan's achievement of the framework's planning objectives.

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~~2. is that process by which the utility's long-range resource program plans are scheduled for implementation over a five-year period. In this process, a determination is made as to the order in which the selected program options are to be implemented; the phases or steps in which each program is to be implemented; the expected target group and the annual size of the target group or annual level of penetration of demand side management programs; the expected annual supply side capacity additions; the expected annual levels of effectiveness in achieving integrated resource planning objectives; and the annual expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of the programs. The result of this process is a program implementation schedule or action plan. The schedule represents an implementation strategy or timetable for program implementation.~~

3. Implementation is that process by which the utility's action plan is implemented and generally includes but is not limited to the following steps and/or activities:

   a. Utility filing of the planning scenarios for commission review and approval, including all supporting documentation and analysis as required by the framework, and in accordance with the file and suspend provisions of Section 269-16(b), HRS.
   b. Utility filing of the action plan for commission review and approval, including all supporting analysis as required by the framework, and in accordance with the file and suspend provisions of Section 269-16(b), HRS.
   c. Develop a detailed cost-benefit analysis and evaluation measures for each strategy, resource, and program included in the action plan.
   d. Utility filing of program applications for commission review and approval for each strategy, resource and program included in the action plan, with all supporting data, information, and analysis in accordance with the commission's rules. The commission shall issue its decision on each program application as expeditiously as possible, and before nine months from the date the utility filed its completed application, in accordance with Section 269-16(d), HRS.
   e. Implementation of the strategy and programs, and the acquisition of resources included in the action plan, in accordance with the action plan implementation schedule as approved by the commission.

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~~3. the resources program options to be implemented are acquired and instituted in accordance with the utility's program implementation schedule.~~

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4. Evaluation is that process by which the results of the action plan in achieving the framework's planning objectives ~~resource program options~~ are measured ~~in light of the utility's objectives~~. In this process the actual costs, effectiveness, and benefits of each strategy, resource, and program in the action plan ~~the resource~~

~~options~~ and the attainment of the ~~utility's~~ planning objectives are measured against those that were projected in the ~~planning and programming stages of the planning cycle~~ action plan and program applications.

B. The Planning Cycle

1. Each utility shall complete its planning scenarios and initial action ~~integrated resource~~ plan ~~and implementation schedule~~ and submit them for commission approval by the following dates:

~~a.~~ Kauai Island Utility Cooperative ~~Electric Division of Citizens Utilities Company~~: ~~May 1, 1993~~ 18-months from date of issue of the commission's order in the above-captioned docket.~~.~~

a.

b. Gasco, Inc.: ~~May 1, 1993~~ 18-months from date of issue of the commission's order in the above-captioned docket.

c. Hawaiian Electric Company, Inc.: ~~July 1, 1993~~ 18-months from date of issue of the commission's order in the above-captioned docket.

d. Hawaii Electric Light Company, Inc.: ~~September 1, 1993~~ 18-months from date of issue of the commission's order in the above-captioned docket.

e. Maui Electric Company, Limited: ~~November 1, 1993~~ 18-months from date of issue of the commission's order in the above captioned docket.

2. The planning scenarios will have a 20-year time horizon beginning with the calendar year immediately following the date of issue of the commission's order in the above-captioned docket. The action plans will include the plan implementation schedule for the initial 5-years of the 20-year planning horizon covered by the planning scenarios.

3. Each utility shall conduct and file with the commission an annual review and evaluation of each strategy, resource, and program included in the action plan.

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~~2.~~4. Each utility shall conduct a major review of its ~~integrated resource~~ planning scenarios every three years. In such a review, a new 20-year time horizon shall be adopted, the planning process repeated, and the utility's ~~resource programs~~ action plan ~~re-analyzed~~ fully evaluated, changed, or updated. The first major review~~, following the submission~~ of each utility's initial planning scenarios ~~integrated resource~~ and action plan ~~to the commission in 1993,~~ shall commence in January of the 3rd-year following the utility's initial filings. ~~in 1995 so as to result in the submission to the commission of a new (second) integrated resource plan and implementation schedule in 1996 as follows:~~

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~~a. Hawaiian Electric Company, Inc.: January 1, 1996.~~

~~b.~~a. ~~Kauai Electric Division of Citizens Utilities Company: April 1, 1996.~~

~~c. Gaseo, Inc.: April 1, 1996.~~

~~d. Hawaii Electric Light Company, Inc.: June 1, 1996.~~

~~e. Maui Electric Company, Limited: October 1, 1996.~~

Thereafter, each utility shall conduct a major review, resulting in the submission to the commission of a new integrated resource plan and implementation schedule ~~on the same day~~ every three years.

C. The Docket

1. Each planning cycle for a utility will commence with the issuance of an order by the commission opening a docket for ~~integrated resource~~ that utility's scenario planning.

2. The docket ~~will be maintained~~ shall remain open throughout the planning cycle for the filing of documents, the resolution of procedural disputes, and other purposes related to the utility's integrated resource plan.

3. Within 30 days after the opening of the docket or within the schedule indicated by the commission's order initiating the docket, the utility shall prepare, in consultation with the consumer advocate, and file with the commission a proposed schedule ~~that it intends to follow~~ in the development of its ~~integrated resource~~ planning scenarios and action plan. The schedule may be amended upon the formation of ~~an~~ technical working groups and/or an advisory group ~~or groups~~ as required by the framework, or by commission approval of motions for participation or intervention by third parties, and thereafter as appropriate and approved by the commission.

4. The utility shall complete its ~~integrated resource~~ planning scenarios and ~~program implementation schedule~~ action plan within one year of the commencement of the planning cycle.

D. Submissions to the Commission

1. For each three-year planning cycle, t~~T~~he utility shall submit its ~~integrated resource~~ planning scenarios and action plan as follows:

a. The utility shall file with the commission ~~include in its integrated resource plan~~ a full and detailed description and all supporting information for ~~of~~ each planning scenario it identified and explored, including but not limited to the following:

(1) The focal issues and decisions to be addressed.
(2) A clear definition of the present situation or situations that will serve as the common departure point for each of the scenarios.
(3) The list of long-term and/or large scale forces or events that could push the future in different directions.
(4) The predetermined elements that are virtually certain to occur and that could be the driving forces for any scenario.
(5) The analysis of the critical uncertainties or forces that affect the focal issues and decisions to be made.

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(6) The forecasts assumptions, including all the supporting workpapers, and a description of the forecast methodology and data used.

(7) The strategy or plan of action for each scenario, including the identification and analysis of the required supply-side and demand-side resources, programs and policies, including the transmission and delivery infrastructure requirements.

(8) cost-benefit analyses of the overall strategies or plans for each scenario, including the expected results.

(9) The list of strategies, resources, and programs included in the action plan, including the selection criteria and description of the analysis method used.

(10) A detailed cost-benefit analysis of each strategy, resource, or program included in the action plan, including the assumptions used in the analysis.

(11) A Locational Value Map and a description of how it was used in the selection of the strategies, resources, and programs included in the action plan.

(12) The expected target groups and expected program results of the demand-side options included in the action plan, including all supporting data and analysis.

(13) The estimated annual supply-side capacity additions by resource type.

(14) The estimate of the annual utility expenditures by cost type required to implement each strategy, resource or program included in the utility action plan.

(15) The method of measuring and evaluating the action plan's achievement of the framework's planning objectives.

(16) An estimate of the impact of the action plan on rates, consumer bills, consumer energy use, achievement of the state energy goals, environment, and economy.

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~~a. (1) the needs identified; (2) the forecasts made; (3) the assumptions underlying the forecasts; (4)~~

~~the objectives to be attained by the plan; (5) the measures by which achievement of the objectives is to be assessed; (6) the resource options or mix of options included in the plan; (7) the assumptions an the basis of the assumptions underlying the plan; (8) the risks and uncertainties associated with the plan; (9) the revenue requirements on a present value basis and on an annual basis; (10) the expected impact of the plan on demand; (11) the expected achievement of objectives; (12) the potential impact of the plan on rates, consumer bills, and consumer energy use; (13) the plan's external costs and benefits; and (14) the relative sensitivity of the plan to changes in assumptions and other conditions. The items enumenrated should, where appropriate, be described for the plan as a whole and for each of the resources or mix of resources included in the plan.~~

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~~b. The utility shall file with the integrated resource plan a full and detailed description of the analysis or analyses upon which the plan is based. The utility shall fully describe, among other things, (1) the data (and the source of data) upon which the needs were identified and forecasts made; (2) the methodologies used in forecasting; (3) the various objectives and measures of assessing attainment of objectives that were considered, but rejected, and the reasons for rejecting any objective or measure; (4) the resource options that were identified, but screened out and not considered and the reasons for the rejection of resource option; (5) the assumptions and the basis of the assumptions, the risks and uncertainties, the costs, effectiveness, and benefits (including external costs and benefits), and the impacts on demand, rates, consumer bills, and consumer energy uses associated with each resource option or mix of options that was considered; (6) the comparisons and the cost, effectiveness and benefit tradeoffs and optimization made of the options and mixes of options; (7) the models used in the comparisons, tradeoffs, and optimization; (8) the criteria used in any ranking of options and mixes of options; and (9) the~~

~~sensitivity analyses conducted for the options and mixes of options.~~

~~c. The utility shall also file with the integrated resource plan a description of all alternate plans that the utility developed, the ranking it accorded the various plans, the criteria used in such ranking, and a full and detailed explanation of the analysis upon which it decided its preferred integrated resource plan.~~

~~d.~~b. The submissions should be simply and clearly written and, to the extent possible, in non-technical language. Charts, graphs, and other visual devices may be utilized to aid in understanding ~~its~~ the action plan and the analyses by the utility. The utility shall provide an executive summary of the planning scenarios used and explored, the action plan, and ~~of~~ the analyses, and shall appropriately index its submissions.

2. The utility shall submit its action plan ~~program~~ implementation schedule as follows:~~:~~

~~a. The utility shall include in the schedule by year: the programs or phases of programs to be implemented in the year; the expected level of achievement of objectives; the expected size of the target group or level of penetration of any demand-side management program; the expected supply-side capacity addition; and the expenditures~~, by cost type. ~~categories and cost elements, required to be made by the utility to support implementation of each program or phase of a program.~~

a.

b. The utility shall file with its action plan ~~program~~ implementation schedule a full and detailed description of the analysis upon which the schedule is based. The utility shall fully describe, among other things:

(1) The steps required to realize and implement the supply-side and demand-side resource programs included in the schedule.

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(2) How the target groups were selected and how program penetration for demand-side ~~management programs~~ options and the expected ~~levels of effectiveness in achieving integrated resource planning objectives~~ results were derived.

(3) The expected annual effects of program implementation on the utility and its system, the ratepayers, the environment, public health and safety, cultural interests, the state economy, and society in general.

~~c.~~ The program implementation schedule shall also include ~~be accompanied by~~ the utility's proposals ~~on cost and revenue loss recovery and incentives, as~~ for cost recovery method if appropriate. ~~appropriate.~~

c.

3. The utility shall submit its annual evaluation including the following: ~~as follows.~~

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a. ~~The utility shall include in its annual evaluation,~~ aAn assessment of the continuing validity of the forecasts and assumptions upon which its integrated resource plan and its program implementation schedule were fashioned.

b. A comparison of the estimated expenditures and the actual incurred expenses for the year, and the reasons for the differences.

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c. A comparison of the planning objectives actually achieved by each strategy, resource or program included in the action plan, and the forecasted or estimated results for the year including the reasons for the differences.

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~~b. The utility shall also include for each program or phase of program included in the program implementation schedule for the immediately preceding year a comparison of:~~

~~(1) The expenditures anticipated to be made and the expenditures actually made, by cost categories and cost elements.~~

~~(2) The level of achievement of objectives anticipated and the level actually attained.~~

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~~(3) The target group size or level of penetration anticipated for each demand-side management program and the size or level actually realized.~~

~~(4) The effects of program implementation anticipated and the effects actually experienced.~~

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~~c. The utility shall provide an assessment of all substantial differences between original estimates and actual experience and of what the actual experience portends for the future.~~

d. Together with its annual evaluation, the utility shall submit a revised program implementation plan that drops the immediately preceding year from the schedule and includes a new year. The program implementation plan must always reflect a five-year time span.

4. The utility may at any time, as a result of its annual evaluation or change in conditions, circumstances, or assumptions, revise or amend its ~~integrated resource~~ action plan ~~or its program implementation schedule~~. All revisions and amendments must conform to the appropriate requirements of the framework ~~this part D~~.

~~5.~~ The utility action ~~integrated resource~~ plan ~~and program implementation schedule~~ approved by the commission shall ~~govern~~ be a major consideration in commission approval of all utility expenditures for capital projects, purchased power, and utility-controlled demand-side ~~management~~ programs. Notwithstanding approval of an ~~integrated resource~~ action plan: (a) an expenditure for any capital project in excess of $500,000 shall be submitted to the commission for review as provided in paragraph 2.3.g.2 of General Order No.7; and (b) no obligation under any purchased power contract shall be undertaken and no

expenditures for any specific utility-controlled demand-side ~~management~~ program included in an ~~integrated resource~~ action plan ~~or a program implementation schedule~~ shall be made without prior commission approval. ~~All power purchases from qualifying facilities and independent power producers shall be subject to statute and commission rules.~~

E. Public Participation

To maximize public participation in each utility's integrated resource planning process, opportunities for such participation shall be provided through technical working groups, advisory groups to the utility, public hearings, and interventions in formal proceedings before the commission.

1. Technical working groups
   a. The utility shall organize technical working group or groups to assist and work with the utilities in developing the following specific steps in the planning process: (1) development of the planning scenarios; (2) development of the forecast assumptions; (3) development of the strategy for each scenario; and (4) selection of the strategy, resources, or programs to include in the action plan.
   b. The membership of technical working group or groups shall include utility staff and non-utility representatives from the office of the department of commerce and consumer affairs; the public benefits fee administrator; department of business, economic development and tourism's energy office; the relevant county's planning office; as well as representatives from environmental, business, and consumer interest groups.
   c. The technical working groups' non-utility members shall have the requisite skills and expertise, and be able and willing to devote the time required to substantively participate in the working groups' activities or assigned tasks.
   d. The technical working groups will be co-chaired by the utility and a non-utility member.
   e. The role of the technical working group or groups may include co-chairing the working group, working with the

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utilities in developing the scenarios and forecast assumptions, selecting the strategy or program or resource to include in the action plan, compiling data, reviewing CESP-related reports filed with the commission as may be required under the framework, participating and helping the utilities in conducting the advisory group meetings and all or any CESP-related public meetings or workshops.

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~~1.~~2. Advisory groups

a. The utility shall organize in each county in which the utility provides service or conducts utility business an advisory group ~~or groups of~~ consisting of representatives of public and private entities whose interests are affected by the utility's resource plan and that can provide important perspective to the utility's planning process. ~~to advise the utility in the development of its integrated resource plan. A separate advisory group may be formed for each stage of the planning process, as appropriate.~~

~~a.~~b. The utility shall chair each advisory group.

c. ~~The public and private entities includable in an advisory group are those that represent interests that are affected by the utility's integrated resource plan and that can provide significant perspective or useful expertise in the development of the plan.~~

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~~b.~~d. ~~These~~ member entities shall include the state and county agencies and environmental, cultural, business, and community interest groups. An advisory group should be representative of as broad a spectrum of interests as possible, subject to the limitation that the interests represented should not be so numerous as to make deliberations as a group unwieldy.

~~c.~~e. The utility shall consider and incorporate the input of ~~each~~ the advisory group~~, but the utility is not bound to follow the advice of any advisory group~~ in the development of the planning scenarios and action plan where appropriate.

~~d.~~f. All data reasonably necessary for the ~~an~~ advisory group to participate in the utility's ~~integrated resource~~ planning process shall be provided by the utility, subject to the need to protect the confidentiality of customer-specific and proprietary information.

~~e. The use by the advisory groups of the collaborative process is encouraged to arrive at a consensus on issues.~~

~~f.~~ All reasonable out-of-pocket costs incurred by participants in the technical working groups or advisory groups (other than governmental agencies) shall be paid for by the utility, subject to recovery as part of the utility's cost of integrated resource planning. The type of out-of-pocket costs and the amount paid by the utility to each participant shall be subject to commission approval.

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~~2.~~3. Public Information Meetings ~~hearings~~

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a. The utility ~~is encouraged to~~ shall conduct public ~~hearings~~ informational meetings or webinars ~~or provide public forums~~ at the various, discrete phases of the planning process for the purpose of securing the input of those members of the public who are not represented by entities constituting advisory groups.

b. Upon the filing of the utility's planning scenarios and action plan ~~requests for approval of an integrated resource plan or projects~~, the commission may, and ~~it~~ shall where required by statute, conduct public hearings for the purpose of securing public input on the utility's filing ~~proposal~~. ~~The commission may also conduct such informal public meetings as it deems advisable.~~

~~3.~~4. Intervention

a. Upon the filing of its ~~resource~~ action plan, the utility shall cause to be published in a newspaper of general circulation in the State a notice

informing the general public that the utility has filed its proposed ~~integrated~~ resource plan with the commission for the commission's approval.

~~b.~~ To encourage public awareness of the filing of a proposed utility plan, a copy of the proposed plan and the supporting analysis shall be available for public review at the commission's office and at the office of the commission's representative in the county serviced by the utility. In the case of Maui Electric Company, Limited, the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library on each of the islands of Molokai and Lanai. In the case of Hawaii Electric Light Company, Inc., the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library in Kona. Each utility shall note the availability of the documents for public review at these locations in its published notice. The utility shall also place the plan documents on its website. ~~make copies of the executive summary of the plan and the analysis available to the general public at no cost, except the cost of duplication.~~

~~c.~~ b. Applications to intervene or to participate without intervention in any proceeding in which a utility seeks commission approval of its ~~integrated resource~~ action plan are subject to the rules prescribed in part IV of the commission's General Order No. 1 (Practice and Procedure before the Public Utilities Commission); except that such applications may be filed with the commission not later than 20 days after the publication by the utility of a notice informing the general public of the filing of the utility's application for commission approval of its integrated resource plan, notwithstanding the opening of the docket before such publication.

~~d. A person's status as an intervenor or participant shall continue through the life of the docket, unless the person voluntarily withdraws or is dismissed as an intervenor or participant by the commission for cause.~~

~~4.~~5. Intervenor funding

a. Upon the issuance of the commission's final order on a utility's ~~integrated resource~~ action plan or any amendment to the plan, the commission may grant an intervenor or participant (other than a governmental agency, a for-profit entity, and an association of for-profit entities) recovery of all or part of the intervenor's or participant's direct out-of-pocket costs reasonably and necessarily incurred in intervention or participation. Any recovery and the amount of such recovery are in the sole discretion of the commission.

b. To be eligible for such recovery:

(1) The intervenor or participant must show a need for financial assistance;

(2) The intervenor or participant must demonstrate that it has made reasonable efforts to secure funding elsewhere, without success;

(3) The intervenor or participant must maintain accurate and meaningful books of account on the expenditures incurred; and

(4) The commission must find that the intervenor or participant made a substantial contribution in assisting the commission in arriving at its decision.

c. The intervenor's or participant's books of account are subject to audit, and the commission may impose other requirements in any specific case.

d. Such allowance may be made only upon the application of the intervenor or participant within 20 days after the issuance of the commission's final order, together with justification and documented proof of the costs incurred.

e. The costs of intervenor funding shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning.

F. Cost Recovery and Incentives

1. The utility is entitled to recover its ~~integrated~~ resource planning and implementation costs that are prudent and reasonably incurred~~, including the costs of planning and implementing pilot and full scale demand-side management programs~~ and which are incremental to the utility's normal costs of doing business.

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~~1.~~2. The utility's program applications for each strategy, resource, or program included in the action plan shall include the estimated costs and proposed cost recovery method. The cost recovery method shall be as determined and approved by the commission.

a. ~~The cost recovery may be had through the following mechanisms:~~

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~~a.~~

(1) ~~Base rate recovery -- the inclusion of costs in the utility's base rate during each rate case. A balancing account may be appropriate in this instance to reconcile, with interest, the utility's recovered expenditures with its actual expenditures. It may also be appropriate to consider the utility's underexpenditure of authorized cost to limit recovery, unless program objectives are met or exceeded.~~

(2) ~~Adjustment clause -- the recovery of costs incurred between rate cases in excess of the baseline integrated resource planning related costs that are included in the utility's base rates.~~

~~(3) Ratebasing -- the inclusion of costs that are capital in character (i.e., expenditures considered to produce long-term savings or benefits , such as appliance rebates, loans, etc.), with accumulated AFUDC, in the utility's rate base at its next rate case. The costs are to be amortized over a period set by the commission.~~

~~(4)~~(3) ~~Escrow accounting -- the accumulation, with interest, of costs, not capital in character, incurred between rate cases and not otherwise recovered through the utility's base rates, adjustment clause, or rate base, in a deferred account, to be amortized over a period set by the commission.~~

~~b. The commission will determine the appropriate mechanism for the recovery of costs associated with demand-side management programs when specific demand-side management programs are submitted for commission approval. Cost recovery for other integrated resource programs generally will be addressed in each utility's rate case.~~

~~2. Under appropriate circumstances, the utility may recover the net loss in revenues sustained by the utility as a result of successful implementation of full-scale demand-side management programs sponsored or instituted by the utility.~~

~~a. The net revenue loss is the revenue lost less the variable fuel and operating expenses saved by the utility as a result of not having to generate the unsold energy.~~

~~b. The commission will determine whether the utility will be permitted to recover the net revenue lost as a result of successful implementation of a full-scale demand-side management program and the form of the recovery mechanism. The determination will be~~

~~made when an application is filed for approval of the demand side management program.~~

3. ~~Under appropriate circumstances, the commission may provide the utility with incentives to encourage participation in and promotion of full scale demand side management programs.~~

   a. ~~The incentives may take any form approved by the commission. Among the possible forms are:~~

      (1) ~~Granting the utility a percentage share of the gross or net benefits attributable to demand-side management programs (shared savings).~~

      (2) ~~Granting the utility a percentage of certain specific expenditures it makes in demand side management programs (mark up).~~

      (3) ~~Allowing the utility to earn a greater than normal return on equity for ratebased demand side management expenditures (rate base bonus).~~

      (4) ~~Adjusting the utility's overall return on equity in response to quantitative or qualitative evaluation of demand side management program performance (e.g., adjusting the return upward for achieving a certain level of kilowatt or kilowatt hour savings) (ROE adjustment).~~

   b. ~~The commission will determine whether the utility will be provide with incentives and the form of such incentives, if any, when specific demand side management programs are submitted for approval. The utility may propose incentive forms for a particular program, based on the particular attributes of the program and the results to be attained.~~

   c. ~~The commission may terminate any and all incentives whenever circumstances or conditions warrant such termination.~~

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~~Attachment I~~

Exhibit B

~~D.~~ IV. Planning Considerations

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A. Scenarios of Possible Futures

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The utility shall develop a set of scenarios of plausible futures to highlight the major driving forces and/or uncertainties that may push the future in different directions, and are critical to the focal issues or decisions in the utility's resource planning.

B. Locational Value Maps

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The utility shall develop Locational value maps showing the geographic areas of the utility's delivery system where renewable resources, distributed generation and/or energy efficiency may be most beneficial to the system, as well as the existing delivery systems in the forecasted growth areas.

~~A.~~C. Forecasts

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~~1.~~ The utility shall develop a range of forecasts of the variables or elements required for scenario planning such as the amount of energy consumers will need over the planning horizon, fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, other similar variables. ~~of the amount of energy consumers will need over the planning horizon. It~~ The utility shall develop forecasts for multiple scenarios that are necessary or appropriate in the development of its ~~integrated resource~~ action plan. ~~Among the scenarios are the base case scenario (a scenario based on the most likely assumptions), a high growth scenario, and a low growth scenario.~~

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~~2.~~1. Each forecast shall identify the significant demand and use determinants; describe the data, the sources of the data, ~~the assumptions (including assumptions about fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, and end use),~~ and the analysis upon which the forecast is based; indicate

the relative sensitivity of the forecast result to changes in assumptions and varying conditions; and describe the procedures, methodologies, and models used in the forecast, together with the rationale underlying the use of such procedures, methodologies, and models.

~~3. Among the data to be considered are historical data on energy sales, peak demand, system load factor, system peaks, and such other data of sufficient duration to provide a reasonable basis for the utility's estimates of future demand.~~

~~4. As feasible and appropriate, the forecast shall be by the system as a whole and by customer classes.~~

~~5.~~2. ~~The utility shall use all reasonable methodologies in forecasting, including, as practicable and economically feasible, the disaggregated end use methodology~~.

~~B.~~D. Planning Objectives

~~1. The ultimate objective of a utility's integrated resource plan is meeting the energy needs of the utility's customers over the ensuing 20 years.~~

~~2. The utility may specify any other utility specific objective that it seeks to achieve through its integrated resource plan. For example, given the parameter of the State goal of less dependence on imported oil, the utility may set as an objective the achievement of lowering to a specified level the use of imported oil.~~

The objectives of the utility's resource plan or plans resulting from the CESP process include:

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1) To meet the consumers' future energy needs in an integrated, efficient, reliable, and cost-effective manner.

2) To achieve the State goals of energy independence and security and its attendant economic and environmental benefits, by meeting or surpassing the statutorily mandated renewable portfolio standards (RPS) and energy efficiency portfolio standards (EEPS).

3) To identify and plan for the required transmission and delivery infra-structure upgrades and expansions necessary to increase the system capability and resiliency to meet the consumers' future energy needs with the use of clean renewable energy resources and technology consistent with the State energy goals.

~~3.~~ The commission may specify other objectives for the utility. Such specifications, if any, shall be included in the order opening a docket for integrated resource planning at the commencement of each planning cycle.

~~C.~~E. Effectiveness Measures

1. The utility shall specify the measure by which attainment of the objective or objectives is to be determined.

2. Where direct, quantifiable measures are not available, the utility may utilize proxy measures.

~~D.~~F. Resource Options

1. In the development of ~~its integrated resource plan~~ the strategy for each scenario, the utility shall consider all feasible supply-side and demand-side

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resource options appropriate to Hawaii and available within the years encompassed by the ~~integrated resource~~ scenario planning horizon to meet the stated objectives.

2. The utility ~~shall~~ may include among the options the supply-side and demand-side resources or mixes of options currently in use, promoted, planned, or programmed for implementation by the utility. Supply-side and demand-side resource options include those resources that are or may be supplied by persons other than the utility.

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~~2.~~3. The utility must consider all supply-side and demand-side resources that may be provided or acquired through all the procurement methods or programs including net energy metering and feed-in tariffs program, and other programs or initiatives designed to promote customer-owned and/or customer-sited renewable energy systems.

~~3. The utility shall initially identify all possible supply-side and demand-side resource options. The utility may, upon review, screen out those options that are clearly infeasible. An option may be deemed infeasible the option's life-cycle costs clearly outweigh its benefits or effectiveness under both societal cost benefit and utility cost benefit assessments. The utility, with the advice of the advisory groups, may establish such other criteria for screening out clearly infeasible options.~~

~~E.~~G. Data Collection

1. For each feasible resource option, the utility shall determine its life cycle costs and benefits and its potential level of achievement of objectives. The

utility shall identify the option's total costs and benefits - the costs to the utility and its ratepayers and the indirect, including external (spillover), costs and benefits. External costs and benefits include the cost and benefit impact on the environment, people's lifestyle and culture, and the State's economy.

~~2. To the extent helpful in analysis, the utility shall distinguish between fixed costs and variable costs and between sunk costs and incremental costs; and the utility shall identify any opportunity costs.~~

~~3.~~2. The costs and benefits shall, to the extent possible ~~and feasible, be~~ (a) quantified and (b) expressed in dollar terms. When it is ~~neither~~ not possible ~~nor feasible~~ to quantify any cost or benefit, such cost or benefit shall be qualitatively measured. The methodology used in quantifying or in qualitatively stating costs and benefits shall be detailed.

~~F. Assumptions; Risks; Uncertainties~~

~~1. The utility shall identify the assumptions underlying any resource option or the cost or benefit of any option or any analysis performed.~~

~~2. The utility shall also identify the risks and uncertainties associated with each resource option.~~

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~~3. The utility shall further identify any technological limitations, infrastructural constraints, legal and governmental policy requirements, and other constraints that impact on any option or the utility's analysis.~~

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~~G.~~H. Models

1. The utility may utilize any ~~reasonable model or~~ industry planning models or methodoolgy in comparing resource options and ~~otherwise in~~ analyzing the relative values of the various options or combinations of options.

2. Each model or methodology used must be fully described and documented.

~~H.~~I. Analyses

1. The utility shall conduct cost-benefit and cost-effectiveness analyses to compare ~~and weigh the~~ each strategy, resource, and program included in the action plan. ~~various options and various alternative mixes of options. Alternative mixes of options include variously integrated supply-side and demand-side management programs.~~

2. The utility may ~~shall~~ conduct such analyses from varying perspectives, including the utility cost perspective, the ratepayer impact perspective, the participant impact perspective, the total resource cost perspective, and the societal cost perspective.

~~3.~~ The utility shall analyze all supply-side and demand-side options on a consistent and comparable basis. ~~It shall give the costs, effectiveness, and benefits of demand-side management options consideration equal to that given to the costs, effectiveness, and benefits of supply-side options. The utility may use any reasonable and appropriate means to assure that such equal consideration is given.~~

3.

4. The utility shall compare the options on the present value basis. For this purpose, the utility shall discount the estimated annual costs (and benefits,

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as appropriate) at an appropriate rate. The utility shall ~~fully explain the rationale~~ provide the basis for its choice of the discount rate.

5. ~~The utility may rank, as appropriate, the various options and mixes of options upon such reasonable criterion as it may establish with the advice of its advisory groups.~~

~~I. Resource Optimization~~

~~A. Based on its analyses, the utility shall select those resource options or mix of resource options that achieve that level of effectiveness or that level of benefits specified in the objectives at the least cost. The utility shall also identify those resource options or mix of resource options that achieve the highest level of effectiveness or level of benefits at various levels of cost.~~

~~a. The options or mix of options shall be selected in a fashion as to achieve an integration of supply side and demand side options.~~

~~b. The selection of options or mix of options constitutes the utility's integrated resource plan.~~

~~B. The utility shall develop a number of alternative plans, each representing optimization from a differing perspective, including the perspective of the utility, the ratepayers, the non participant, and society. It shall also develop alternate plans to meet the needs identified by each demand forecast scenario.~~

~~C. For each plan, the utility shall identify the revenue requirements on a present value and annual basis. It shall note the risks and uncertainties associated with the plan. It shall also describe the plan's impact on rates, customer energy use, customer bills, and the utility system. It shall also describe the plan's impact on external elements -- the environment, people's lifestyle and culture, the State's economy, and society in general.~~

~~D. The utility shall rank the various plans, based on such criterion as it may establish with the advice of its advisory groups. The utility shall designate one of these plans as its preferred plan and submit to the commission the preferred plan as its integrated resource plan.~~

~~J. Sensitivity Analysis~~

~~The utility shall subject its selection of resource options to sensitivity analysis by altering assumptions and other parameters.~~

~~E. Pilot Demand-Side Management Programs~~

~~A. Purposes~~

~~1. A purpose of piloting demand-side management programs is to ascertain whether a given program, not yet proven in Hawaii, is cost-effective -- whether it will have the penetration and will achieve accomplishment of the utility objectives as originally believed.~~

~~2. A second purpose of piloting demand-side management programs is to determine whether the program design and configuration (including how it is managed and promoted) are such as to~~

~~permit implementation of the program as efficiently and effectively as desired.~~

~~B. Utility Pilot Programs~~

~~1. A utility may implement on a full scale basis (without pilot testing) any demand side management program that has been proven cost effective as a result of a full scale or pilot implementation of the program in another comparable utility service territory or as a result of pilot testing by a utility in Hawaii. In all other cases, the utility shall pilot test a demand side management program before implementing it on a full scale basis.~~

~~2. Each utility shall develop appropriate pilot demand side management programs for implementation without awaiting commission approval of its initial integrated resource plan. For each program, the utility shall clearly articulate the parameters of the program, the objectives to be attained by the program, the expected level of achievement of the objectives, the measures by which the attainment of the objectives is to be assessed, the data to be gathered to assist in the evaluation of the pilot program, and the expenditure it proposes to make by appropriate cost components.~~

~~3. All proposed pilot demand side management programs are subject to commission approval.~~

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